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| EXAMINER |
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ROSSI, JESSICA

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| ART UNIT | PAPER NUMBER |
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1733

DATE MAILED: 08/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/654,765

Applicant(s)

NORDMAN, PAUL S.

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/6/06, Amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-13,15,17-25 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-13,15,17-25 and 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 6/6/06. Claims 8, 14, 16 and 26 were cancelled. Claims 1-7, 9-13, 15, 17-25 and 27-33 are pending.

Terminal Disclaimer

2. The terminal disclaimer filed on 6/6/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Application No. 10/655,257 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7, 9-13, 15, 17-25 and 27-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it recites the limitation "the frame panel" in line 11. There is insufficient antecedent basis for this limitation in the claim. It is suggested to change this to --the frame structure-- or --the structural panel--.

With respect to claim 13, it recites the limitation "the structural sheet" in lines 8, 9 and 12. There is insufficient antecedent basis for this limitation in the claim. It is suggested to change this to --the metal sheet--.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 9-13, 15, 17-25 and 27-33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Day et al. (US 5665450, of record) in view of Marini (US 2322582, of record) and further in view of Padden (US 5500272, of record).

Day teaches forming an aircraft window that exhibits excellent transparency and superior strength as compared to conventional windows made from transparent glass/plastic sheets that are bonded via transparent plastic interlayers (column 1, lines 18-52). Day does this by replacing the glass/plastic sheets and plastic interlayers with optically transparent fiber pre-impregnated resin tapes, otherwise known as pre-pregs, that are stacked and then heated and pressed to cause the resin to melt and eventually cure thereby laminating the tapes to form the window (column 3, lines 5-8 and 52-65; column 11, lines 48-51; column 12, lines 4-12; column 10, lines 35-40; column 15, lines 15-25 and 44-46).

It is well known and conventional in the window art to attach the transparent components of a window (i.e. glass/plastic sheets and interlayers) to a metal frame/reinforcement structure, comprising at least one metal sheet that defines an opening, that allows the window to be easily incorporated into a larger structure. Instead of laminating the transparent components to form the window and then subsequently attaching/bonding the laminated window to the frame/reinforcement, the prior art

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combines these steps into one by applying the transparent components to the metal sheet to substantially cover the metal sheet and fill the opening and then heating and pressing the metal sheet and transparent components to laminate/bond the same via the interlayers, as taught by Marini (Figures 1-2, note metal sheet 5, transparent glass/plastic sheets 2 and transparent interlayers 4; p. 1, column 1, lines 20-50; p. 1, column 2, lines 4-55).

Therefore, since the transparent pre-pregs of Day are equivalent to the transparent glass/plastic sheets and transparent interlayers of Marini, it would have been obvious to one of ordinary skill in the art at the time of the invention to attach a metal frame/reinforcement structure, in the form of a metal sheet defining an opening, to the transparent pre-pregs of Day using a single bonding step by applying the transparent pre-pregs of Day to the metal sheet to substantially cover the metal sheet and fill the opening and then using the heating and pressing of Day to melt and eventually cure the resin in the pre-pregs thereby laminating the same to each other and to the metal sheet to form the window because such a bonding step is known in the art for simultaneously laminating transparent window components to each other and to a metal frame/reinforcement, as taught Marini, where the metal frame/reinforcement strengthens the window and allows it to be easily incorporated into a larger structure and a single bonding step simplifies the manufacturing process; especially in light of the fact that it is known in the aircraft industry to simultaneously bond pre-pregs to each other and to metal sheets interposed between the pre-pregs by melting and curing the resin in the pre-pregs, as taught by Padden (Figure 1; abstract; column 1, lines 12-13; column 2, lines 19-25).

It is further noted that Day teaches a tool for lay-up of the pre-pregs (column 10, lines 35-40 and 60-62). It is further noted that Marini teaches the metal sheet 5 having a

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plurality of spaced apart openings (Figure 1; p. 1, column 2, lines 8-9). It is further noted that Day in view of Marini teaches the pre-pregs completely covering the openings and overlaying the periphery of the metal sheet and forming a plurality of see-through window portions in the panel (note metal sheet would be completely covered by pre-pregs in the panel of Day in view of Marini just like the metal sheet 5 is completely covered by interlayers 4 in the panel of Marini).

Double Patenting

7. Applicant is once again advised that should claims 18-21 be found allowable, claims 23-24 and 27-28 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

8. Claims 1-7, 9-13, 15, 17-25 and 27-33 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17-20 of copending Application No. 11/316,173 in view of Day et al., as set forth in paragraph 13 of the previous action.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

9. Applicant's arguments filed 6/6/06 have been fully considered but they are not persuasive.

10. On p. 13 of the remarks, Applicant argues that while Day does discuss the formation of an optically transparent composite material, he does not suggest anything

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regarding forming an optically transparent window assembly in which one or more metal sheets are substantially covered by the optically transparent, pre-impregnated resin tape.

The examiner points out that this is the case because Day is only concerned with the formation of the optically transparent composite material itself and not with any further processing thereof, such as its attachment to a reinforcement/frame structure (i.e. metal sheet) that strengthens the composite and aids in incorporating the transparent composite into a larger structure. In fact, Day's lack of interest with such further processing of the transparent composite gives one all the more reason to modify Day in view of a teaching in the window art, like Marini, that discloses a well-known method for incorporating a transparent composite into a larger structure by embedding a metal sheet, which defines an opening, between the layers of the transparent composite.

11. On p. 14 of the remarks, Applicant argues that Marini does not disclose or appear to provide any suggestion towards manufacturing a structural panel by using an optically transparent, pre-impregnated resin tape, and applying the resin tape such that it substantially covers a metal sheet having an opening.

The examiner appreciated this and points out that if Marini did teach all of that, clearly Marini would have been applied in a 102 rejection against present claim 1. However, Marini was instead logically applied in a 103 rejection as a secondary reference relied solely upon for its teaching in the window art of attaching the transparent components of a window to a metal frame/reinforcement structure, comprising at least one metal sheet that defines an opening, that allows the window to be easily incorporated into a larger structure, where instead of laminating the transparent components to form the window and then subsequently attaching/bonding the laminated window to the

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frame/reinforcement, Marini combines these steps into one by applying the transparent components to the metal sheet to substantially cover the metal sheet and fill the opening and then heating and pressing the metal sheet and transparent components to laminate/bond the same via the interlayers.

12. On p. 14 of the remarks, Applicant argues that Padden merely discloses interweaving titanium sheets between graphite epoxy plies where the structure does not appear to be suitable for use in a window.

The examiner points out that Padden was only used to show it being known in the aircraft industry to simultaneously bond pre-pregs to each other and to metal sheets interposed between the pre-pregs by melting and curing the resin in the pre-pregs.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JESSICA ROSSI
PRIMARY EXAMINER

